

BDCP

BAY DELTA CONSERVATION PLAN

A PLAN TO RESTORE THE DELTA'S ECOSYSTEM AND CALIFORNIA'S WATER SUPPLIES

WHAT IS NEW WITH THE BDCP?

The Bay Delta Conservation Plan (BDCP) Steering Committee is preparing a Draft Habitat Conservation Plan (HCP) and Natural Communities Conservation Plan (NCCP) for the Sacramento San-Joaquin Delta (Delta), expected to be available for public comment by the end of 2010. The Plan is designed to provide for the conservation of sensitive species and their habitat in a way that will protect and restore water supplies.

PRELIMINARY DETAILS:

► Habitat Restoration & Other Stressors

- Habitat restoration targets (up to 80,000 acres) for aquatic species
- Preserve and enhance approximately 45,000 acres of habitat for the needs of plant & wildlife species
- Refined list of measures to address water quality and other stressors on aquatic species

► New Water Conveyance Facilities

- Up to five intakes along the Sacramento River from Freeport to Courtland
- Additional study of two underground 33-foot-diameter tunnels/pipelines designed for a combined capacity of up to 15,000 cubic feet per second (cfs). In addition, an above-ground canal is being considered as a conveyance option.

► Flow Criteria (Operations Rules)

A range of potential new diversion rules for new North Delta water facilities in combination with continued operation of existing South Delta facilities (dual conveyance) and other key flow rules.

WHAT ARE THE NEXT STEPS TO COMPLETE THE DRAFT PLAN?

In the coming months, the Steering Committee will address other important elements that need to be completed prior to the release of the Draft Plan, such as identifying terrestrial communities and species conservation measures, developing the adaptive management plan and implementation schedule, verifying covered activities, identifying funding mechanisms, refining biological goals, developing a governance structure, and further developing conservation measures.

Separately, a detailed analysis of impacts to water quality and other important aspects of the human environment will be conducted through the preparation of an Environmental Impact Report/Environmental Impact Statement (EIR/EIS) under the California Environmental Quality Act (CEQA) and National Environmental Policy Act (NEPA). The EIR/EIS will analyze BDCP-proposed actions and alternatives to those actions, including alternative water conveyance options.

WHAT IS IN THE DRAFT CONSERVATION STRATEGY?

Below is an overview of the most recent draft conservation strategy measures:

Habitat Restoration Targets	Water Facilities Rules	Actions to Limit Other Stressors
<ul style="list-style-type: none"> Restore up to 65,000 acres of freshwater and brackish tidal habitat within restoration opportunity areas. Restore 5,000 acres of riparian forest and scrub in restoration opportunity areas. Enhance channel banks along 20 to 40 linear miles with more natural riverbank features, such as overhanging shade, instream woody debris, and shallow benches. Restore 10,000 acres of seasonally inundated floodplain. Increase the frequency and duration of Yolo Bypass inundation via the modification of the Fremont or Sacramento Weirs to improve fish migration, food production, and spawning and rearing habitat. Preserve and enhance approximately 45,000 acres of terrestrial habitat. This target acreage is above and beyond the 75,000 acres of tidal marsh and riparian restoration in support of aquatic and terrestrial species. These targets can take place anywhere within the planning area where species may be present. 	<p>North Delta Diversion and Bypass Flows ①*</p> <ul style="list-style-type: none"> Construct diversion facilities to support flexibility in flow management, with a preliminary design capacity of up to 15,000 cfs, which is similar to existing south Delta facilities. Establish minimum river flows to ensure that Sacramento River flows are always greater than export diversions and that flows support the habitat needs of covered fish and the ecological needs of the Delta as a whole. <p>South Delta Channel Flows ②*</p> <ul style="list-style-type: none"> Minimize incidence and magnitude of reverse flow to acceptable levels during times of year most important to fish, and also to reduce entrainment. <p>Outflow ③*</p> <ul style="list-style-type: none"> Provide freshwater outflow necessary to maintain a desirable salinity regime and for fish health and survival. <p>Water Quality</p> <ul style="list-style-type: none"> Maintain water quality standards set forth by the State Water Resources Control Board and other standards for quality throughout the Delta. <p>Other Controls</p> <ul style="list-style-type: none"> Set new operating rules to better manage inflows, better manage flows through the Delta Cross Channel, and better manage flows at Rio Vista. 	<ul style="list-style-type: none"> Minimize methyl mercury generation from restoration sites Control non-native aquatic plants that support predator habitat Reduce illegal harvest of Chinook salmon, Central Valley steelhead, green sturgeon, and white sturgeon Establish hatchery and genetic management plans Support Delta and longfin smelt propagation programs Reduce predators in high predator density locations Construct non-physical barriers to redirect outmigrating juvenile salmonids (e.g., bubbles, light, and sound barriers) Improve dissolved oxygen levels in the Stockton Deep Water Ship Channel

*Numbers refer to pull-out map.

For a complete description of the proposed conservation measures, visit <http://baydeltaconservationplan.com/BDCPPages/BDCPInfoCurrentDocs.aspx>

HOW WILL LANDS FOR HABITAT RESTORATION BE IDENTIFIED?

The following is a partial list of site selection criteria that will be used, along with local input, to identify lands for habitat restoration and enhancement.

FEASIBILITY

- ▶ Minimized effects on existing land uses
- ▶ Site availability
- ▶ Cost effectiveness in implementing restoration
- ▶ Potential effects on mosquito vector control

BIOLOGICAL ATTRIBUTES

- ▶ Ability to achieve multiple biological objectives for multiple species
- ▶ Proximity to channel systems that could benefit from restoration (e.g., increased tidal marsh restoration may help reduce bi-directional flows in upstream channels, or support greater mixing in channels, both of which are beneficial for native fish)
- ▶ Capacity to contribute to more natural transitions between habitats in the Delta (seasonal wetland, riparian, grassland)
- ▶ Proximity to existing habitats so that new restoration adds to and develops habitat corridors for fish and wildlife
- ▶ Minimal effects of other stressors (such as nearby water diversions or discharges of low-quality water) that could offset intended fish and wildlife benefits

HOW WILL RESTORATION SITES BE MANAGED IN THE LONG TERM?

Individual habitat management plans will guide long-term management of BDCP restoration sites and will include:

- Biological goals and objectives to be met by the restoration activity
- Site-specific monitoring requirements and approach to adaptive management
- Controls for invasive plants
- Controls for non-native predators and competitor species
- Vegetation management and infrastructure maintenance
- Public access and other allowable uses

In addition, recent legislation created the Delta Conservancy to implement long-term restoration efforts.



Suisun Marsh

Objectives: maintain flows for migrating salmon and smelt.

**Minimum tidal marsh restoration target: 2,100 acres
within the total area: 6,178 acres**

**Minimum tidal marsh restoration target: 1,400 acres
within the total area: 9,033 acres**

Objectives: (1) improve fish survival by reducing the risk of their capture at the south Delta pumps, (2) increase survival of juvenile salmon and steelhead by keeping them on their migration path, (3) improve downstream transport of larval and juvenile fish, and (4) improve the production of food resources within the Delta and Suisun Bay.

* Primary factor in managing Delta Flows

BDCP HABITAT RESTORATION AND CONVEYANCE

Planning Area Boundary:

Statutory Delta

Conservation measures also are identified in Suisun Marsh and upper Yolo Bypass areas.

Water Conveyance:

- Water Conveyance Tunnel/Pipeline
- Isolated Conveyance Facility East Option

Intake

Forebay

Habitat Restoration Opportunity Area(s):

Potential New Floodplain and Riparian Habitat Restoration

10,000 acre target may occur anywhere appropriate within the planning area.

Channel Margin

20-40 mile target may occur within the following areas:

- Sacramento River Between Freeport and Walnut Grove
Approx. total area: 36 linear miles
- Steamboat/Sutter Slough Area
Approx. total area: 36 linear miles
- San Joaquin/Old River/Mossdale to Vernalis Area
Approx. total area: 86 linear miles

Floodplain (enhanced existing)

Tidal Marsh

Tidal marsh restoration over and above the minimum tidal marsh targets in each ROA, up to 65,000 acres, would be expected to occur over the life of the plan depending in part on the availability of willing sellers, as well as the total relative amount of suitable habitat within each ROA, among other factors.

Terrestrial Restoration

May occur anywhere appropriate within the planning area.

Yolo Bypass

Objectives: (1) modify Fremont or Sacramento weirs to increase the frequency and duration of Yolo Bypass inundation, (2) increase spawning and rearing habitat for splittail and salmon, (3) provide alternate migration corridor to the mainstem Sacramento River, and (4) increase availability and quality of food and habitat in Cache Slough.

Inflow

Potential objectives: (1) maintain seasonal and daily increases and decreases in river flows between the mainstem Sacramento River and its tributaries, (2) maintain environmental cues used by fish and other aquatic species to signal spawning, migration, and other population responses and behaviors, and (3) increase the survival and growth of covered fish inhabiting the river and estuary.

1 North Delta Diversion Bypass Flows*

Objectives: Maintain adequate river flows to (1) keep fish away from the pumps, (2) keep fish moving in the right direction, towards regions of suitable habitat, (3) minimize fish predation, (4) maintain or improve the overall quality of rearing habitat in the north Delta.

Cosumnes/Mokelumne Area

Minimum tidal marsh restoration target: 1,500 acres within the total area: 7,805 acres

Delta Cross Channel Gate Operations

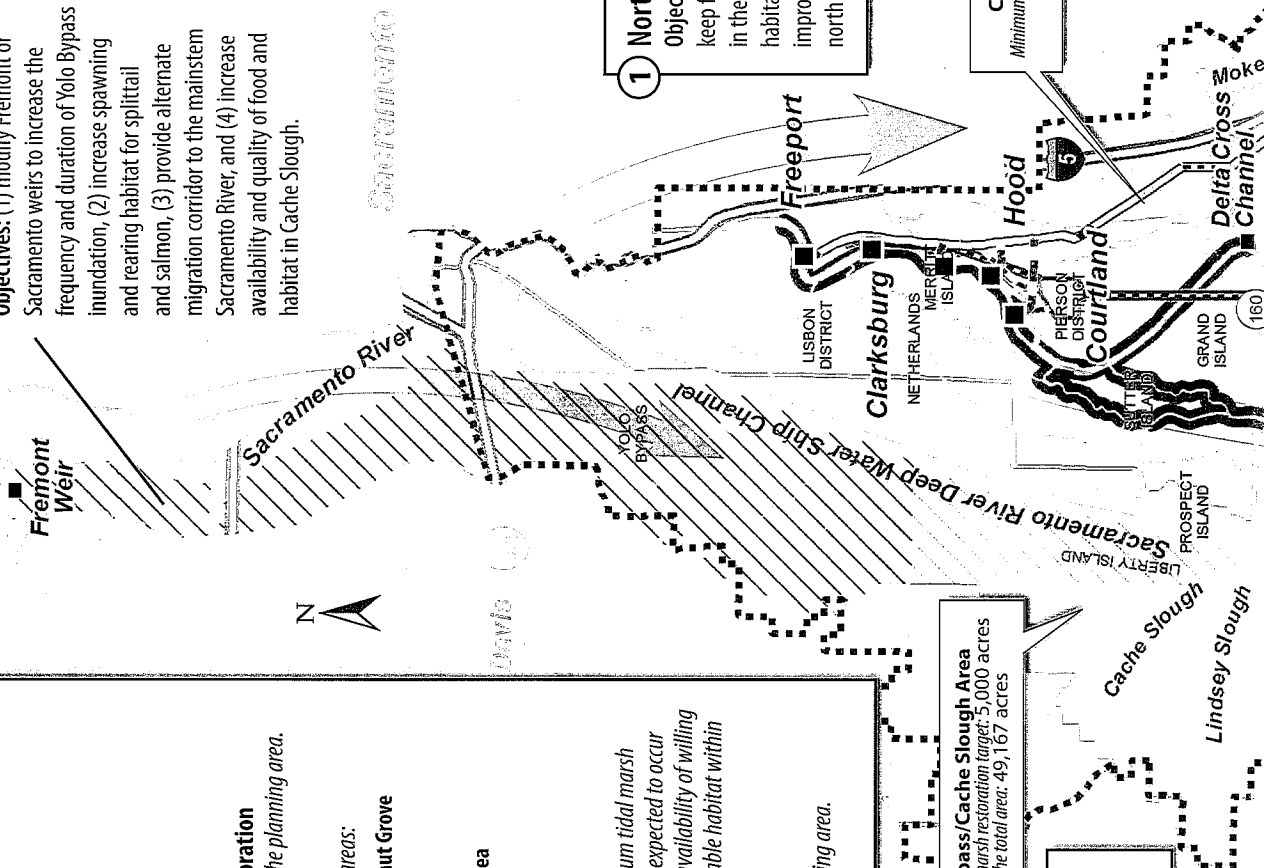
Objectives: (1) reduce movement of outmigrating Sacramento River fish into

In-Delta Water Quality

Maintain existing water quality standards in the North, Central, and West Delta.

Suisun Marsh Area

Minimum tidal marsh restoration target: 7,000 acres



WHAT IS THE ROLE OF SCIENCE IN DEVELOPING THE DRAFT CONSERVATION STRATEGY?

The BDCP Conservation Strategy is built upon and reflects the extensive body of scientific investigation, study, and analysis of the Delta. The BDCP Steering Committee also undertook a rigorous process to develop new and updated information, including an evaluation of conservation options using the CALFED Bay-Delta Ecosystem Restoration Program's Delta Regional Ecosystem Restoration Implementation Plan (DRERIP) evaluation process conducted by multiple teams of experts in early 2009. The BDCP Steering Committee sought and utilized independent scientific advice at several key stages of the planning process, enlisting well-recognized experts in ecological and biological sciences to produce recommendations on a range of relevant topics, including conservation planning for both aquatic and terrestrial species and to develop adaptive management and monitoring programs. Independent science input will continue as the plan is developed, and ongoing scientific input will be provided during plan implementation.

WHAT ARE THE BENEFITS OF REGIONAL CONSERVATION PLANNING?

The combination of an HCP/NCCP is the best available tool to develop a comprehensive plan that will contribute to the recovery of sensitive species and their habitats in a way that will protect and restore water supply reliability. This conservation plan will:

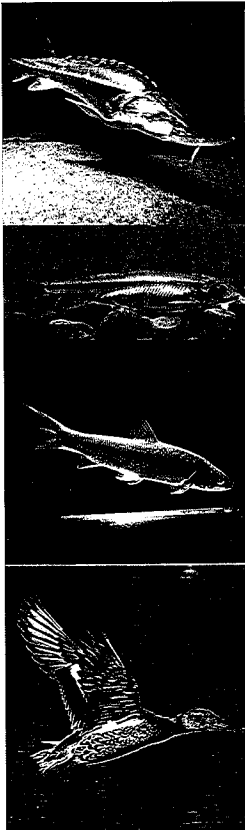
- ▶ Allow operations of state and federal water projects to proceed with a comprehensive ecosystem-focused approach that provides for the conservation of affected species and habitats and meets the standards of the NCCP Act.
- ▶ Eliminate more costly, often less effective piecemeal project-by-project, species-by-species permitting
- ▶ Provide flexibility in addressing those issues that are most effective for promoting the conservation of covered species.
- ▶ Are based on the best available science.
- ▶ Provide reliable funding sources for ecosystem restoration.

WHAT SPECIES WILL BE ADDRESSED BY THE BDCP?

"Covered Species" identified in the BDCP include both endangered or sensitive terrestrial and aquatic species whose conservation and management will be provided by the plan. The draft conservation strategy includes biological goals and objectives for approximately 50 sensitive wildlife and plant species, and also identifies conservation measures to help in their recovery. Species considered for coverage include:

- | | |
|---|--|
| ▶ Delta smelt | ▶ Green sturgeon |
| ▶ Longfin smelt | ▶ White sturgeon |
| ▶ Winter-run Chinook salmon | ▶ Sacramento splittail |
| ▶ Spring-run Chinook salmon | ▶ River lamprey |
| ▶ Fall-run and late fall-run Chinook salmon | ▶ Pacific lamprey |
| ▶ Central Valley steelhead | ▶ Approximately 50 terrestrial species
(such as Giant garter snake,
Swainson's hawk, and others) |

Where feasible, BDCP conservation measures will be designed to complement other existing or planned terrestrial HCP/NCCPs in the Delta to enhance benefits to natural communities and species, and to support locally led conservation efforts and compatible existing land uses to the extent possible.



WHAT NEW CONVEYANCE FACILITIES ARE CURRENTLY PROPOSED?

A focused analysis is underway on an underground tunnel/pipeline conveyance system for potential inclusion into the Draft Plan. While the current pumping capacity proposed allows for a maximum diversion of up to 15,000 cfs, the Steering Committee is evaluating criteria based on a range of facility sizes, operations, and anticipated costs. The decision to further analyze a tunnel/pipeline is based on best available, preliminary information including cost estimates of \$11.7 billion, as well as energy requirements, ongoing operations, maintenance needs, and anticipated environmental impacts at a 10 percent design stage. An above-ground canal is also being considered as a conveyance option. A decision on the proposed conveyance facility will be made after additional analysis has been completed.

In addition, five intake locations along the eastern bank of the Sacramento River between Freeport and Courtland are under consideration for the Draft Plan. Intake locations were identified, in part, to avoid and minimize impacts to important fish and wildlife species and their habitats, cultural and historical sites and housing, existing communities, and planned future land uses.

Under the current proposal, the conceptual tunnel/pipeline conveyance system would include:

- ▶ Up to 5 intakes, each at 3,000 cfs
- ▶ 6 pump stations
- ▶ 36 miles of tunnel (2 bores, 33 feet inside diameter)
- ▶ One 620-acre forebay near the existing Clifton Court Forebay
- ▶ One 750-acre forebay near Courtland

HOW WILL BDCP WATER OPERATIONS RULES HELP RECOVER FISH AND THEIR HABITAT?

Separating California's water supply system from the fragile Delta estuary provides the ability to restore critical ecosystem functions – such as spawning and rearing habitat, production of food for fish, and fish migration patterns – throughout the Delta that are essential for species recovery. The Plan intends to restore these functions by:

- ▶ Establishing water flow rules that mimic natural seasonal flows in the estuary.
- ▶ Steering fish away from the existing state and federal water pumps.
- ▶ Restoring habitat areas throughout the Delta to support the natural ecological processes that are found in a properly functioning estuary.

HOW WILL WATER DIVERSIONS FROM THE SACRAMENTO RIVER BE DETERMINED?

The Plan will propose water operations criteria that will determine how much water could be diverted from the Sacramento River via a new water conveyance facility. Currently, a range of operations is being studied that will limit the amount of water available for diversion depending on the time of the year and real-time flows. For instance, from December through April the proposed rules would require a base flow of 9,000 to 15,000 cfs in the Sacramento River before any water could be diverted at a North Delta diversion. These rules will be put in place to support the BDCP's goals of fish recovery and the restoration of natural seasonal flows.

WHAT IS THE BDCP?

The BDCP is an HCP and NCCP under federal and state laws, respectively. When completed, the BDCP will provide the basis for the issuance of Endangered Species Act (ESA) authorizations for the operation of the state and federal water projects. The plan considers a 50-year planning period. The heart of the BDCP is a long-term conservation strategy that sets forth actions needed for a healthy Delta ecosystem.

WHY IS THE DELTA IMPORTANT?

The Delta is home to half a million people and many historic communities. It is a key recreation destination and supports extensive infrastructure of statewide importance. Fresh water that reaches the Delta is the core of California's water system, which provides 25 million people throughout the Bay Area, the Central Valley, and southern California with a portion of their water supplies. Delta-conveyed water supports farms and ranches from the north Delta to the Mexican border. These agricultural resources are a major economic driver for the state, producing roughly half of the nation's domestically grown fresh produce. The Delta – the largest estuary on the West Coast – is also a vitally important ecosystem that is home to hundreds of aquatic and terrestrial species, many of which are unique to the area and several of which are threatened or endangered.

For More Information visit

www.BayDeltaConservationPlan.com

or call 1-866-924-9955

Contact Karla Nemeth

at the California Natural Resources Agency at:

karla.nemeth@resources.ca.gov

WHO IS PARTICIPATING IN THE BDCP?

The BDCP is being prepared through a voluntary collaboration of state, federal, and local water agencies, state and federal fish and wildlife agencies, environmental organizations, and other interested parties. The BDCP Steering Committee consists of the following participants.

STATE AND FEDERAL AGENCIES

California Department of Water Resources
California Natural Resources Agency (chair)
California State Water Resources Control Board
US Bureau of Reclamation
US Army Corps of Engineers

FISH & WILDLIFE AGENCIES

California Department of Fish and Game
US Fish and Wildlife Service
US National Marine Fisheries Service

WATER AGENCIES

Kern County Water Agency
Metropolitan Water District of Southern California
San Luis & Delta-Mendota Water Authority
Santa Clara Valley Water District
Westlands Water District
Zone 7 Water Agency
Contra Costa Water District
Friant Water Authority
North Delta Water Agency

ENVIRONMENTAL ORGANIZATIONS

American Rivers
Defenders of Wildlife
Environmental Defense Fund
Natural Heritage Institute
The Bay Institute
The Nature Conservancy

OTHER ORGANIZATIONS

California Farm Bureau Federation
Mirant Delta